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ABSTRACT

The Western Brokering Project (WBP) is a cooperative effort to share resources and programming across educational institutions in the western United States. Administered by the Western Interstate Commission for Higher Education and the Western Cooperative for Educational Telecommunications, the WBP works with 6 community colleges and universities and 15 states to match the educational needs of rural communities with available resources through distance education. The University of Wyoming, for example, offers a land surveying certificate as part of the WBP. The program can be taken as part of an associate degree program and utilizes distance education technology to be available to students across the West. To ensure high quality in the distance education program, faculty worked with the instructional design team to adapt their course to the distance delivery system. Audio conferencing is the primary delivery method used, while videotapes and print materials are also included. To participate, students only need access to a videocassette player and a conference telephone. After the initial implementation of the courses, the following recommendations were developed: (1) remedial tapes should be developed and sent to students requiring extra help with prerequisites to the course; (2) the amount of required audioconferencing should be decreased; and (3) an infrastructure to support program delivery nationwide must be developed. (TGI)

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Issues and Problems in Distance Teaching to Rural Communities: A Western Perspective

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A Western Perspective

The western states are dominated by large open spaces with, sometimes, hundreds of miles between towns, difficult mountain passes or other topographical obstacles, undeveloped roads, and rural populations often no larger than an urban city block. Expanding access to distance learning to such locations accentuates geographical differences from more densely populated suburban and urban communities. While centralized and decentralized populations present differing teaching and learning scenarios within the context of distance learning, additional factors of culture and economics become determinants in the implementation of distance learning.

Density and distribution of populations certainly influence educational facilities, programs, and resources within individual states. States with small populations typically have neither the revenue base nor adequate teaching resources to meet the diverse education needs of its constituents. As a result, educational gaps exist where needs are left unmet. Distance learning is increasingly utilized by state institutions to reach out to underserved and geographically isolated populations. Despite such efforts, unmet educational needs continue to exist resulting from the inability of state institutions to offer the full spectrum of educational programs needed to meet all interest levels of its citizens.

Through regional sharing of programming and the development of partnering agreements, state needs are more likely to be met. The Western Brokering Project, funded by the United States Department of Commerce, and administered by the Western Interstate Commission for Higher Education and the Western Cooperative for Educational Telecommunications, seeks to match the educational needs of rural communities with the resources of colleges and universities across the West thus sharing educational programming and technology.

The Project is working with six institutions including the University of Wyoming, the University of Alaska, Front Range Community College in Colorado, University of North Dakota, National Technological University in Colorado, and California State at Chico offering degree and certificate programs in the areas of health, library science, space studies, land surveying, and hazardous waste management. Fifteen western states are also participating in this project and can bring any of the programs into their states. The brokering of these programs and the negotiating of agreements among states are further facilitated by the recently developed Principles of Good Practice for Electronically Offered

Academic Degree and Certificate Programs which encourage the development of quality distance education.

The Principles of Good Practice, an outcome of another Western Cooperative project, focus on the areas of curriculum and instruction; institutional context and commitment; and evaluation and assessment. They encourage rigorous programs from accredited institutions using appropriate technology to be taught by qualified faculty where learning resources and support are available for all students. The Characteristics of Good Practice can be used by institutions to review and evaluate the programs it provides via technology in terms of its own internally applied definitions of these Principles.

In order to ensure quality distance education, faculty support is necessary through training and support services specifically related to teaching via an electronic system. The Principles support the notion that faculty evaluation include appropriate consideration of teaching and scholarly activities related to distance delivered programs. This same type of support is recommended for students, as well, including not only access to accurate and thorough information regarding the program but access to the library and technology hardware and software needed to be successful. On-campus student services, or a full range of services, are required by students. Equally important is the background, knowledge, and technical skills needed to undertake programs. Ensuring students have these prerequisites is recommended.

The program of study, itself, must be complete and coherent with ongoing institutional support. Learning outcomes appropriate to the rigor of the degree or certificate must be maintained and opportunities for student, faculty, content interaction should be provided either real-time or delayed.

Each institution is unique in its delivery and current constituency. This uniqueness translates to a variety of distance learning opportunities from each of the universities and colleges in this project. Each of the participating states is unique as well in its educational structure and populations to be served. As a result, the educational programs offered through this project must be sensitive to varying states' needs recognizing the diversity of the western states in terms of not only population distribution and local economies but also various cultural traditions in the political, economic, and social realms. What types of modifications, if any, can and ought to be made to match resource with need? What teaching modifications, delivery strategies, and technology resources must be available for rural individuals to access interstate degree and certificate programs?

The Wyoming Project

The program offered by the University of Wyoming as part of the Western Brokering Project is a Land Surveying certification program which may be taken as part of an Associate degree program. There is some indication that the courses offered are also of interest by persons with undergraduate and graduate degrees who require continuing education and/or certification credit.

Interest in the surveying certification program originated with a state mandate requiring that land surveyors have a minimum of 30 credit hours of formal training in surveying in order to be eligible to sit for the Wyoming Land Surveyor's Licensing Exam. At the time of this mandate, only the University and three of the state's seven community colleges

offered courses in surveying. No single institution offered anything close to the required 30 credits.

Initially, discrete surveying courses were offered, without regard to a specific program. This response was prompted by the fact that such courses were already a part of the civil engineering curriculum at the University, thereby, posing no impediments in terms of campus politics. Persons affected by the educational requirement were already expressing distress at being mandated to do something that did not appear to be feasible. Because the demand for the courses was immediate there was no time to wait for permission. Even if individuals could relocate to participate in a program there was no official program in place to satisfy the state mandate.

In sum, offering discrete courses was appropriate at the time because the state requirement was very ambiguous about the content of the courses. State requirements set the number of credit hours that needed to be taken without specifying particular content areas.

Distance Delivery Development

The University was faced with the challenge of establishing the curriculum based on identified competencies established by the board. To ensure high quality in the University's distance education program, characteristically, faculty work with the instructional design team at least one semester in advance of delivery to adapt their course to the distance delivery system.

As part of the development process, faculty attend a workshop designed to acquaint them with the delivery system, with appropriate strategies for using the system successfully, and with the support team comprised of office staff, advisors, and library personnel. Following the workshop, faculty are provided on-going, one-to-one coaching by the instructional design team addressing any concerns they have relative to course delivery.

For the land surveying program, audioconferencing is the primary delivery method used augmented with videotapes and print materials. All of the courses are based on the Carnegie unit of 15 contact hours per credit hour. Approximately 80% of this is provided via pre-recorded video tape; the remaining 20% is accounted for by participation in audioconferencing with the instructor and the other students. Depending on the particular class, these percentages may vary. For example, the law classes entail more audioconferencing time because the topics are more controversial and require more interactive discussion. On the other end of the continuum, the introductory course for land surveying is primarily presentation of information. In the latter case, class discussion is used to clarify points and ensure that the students are understanding the material, but is not essential for inducting meaning.

The use of audioconferencing and videotapes permit students to continue with class participation whether they are on-the-road or at home. Since survey work is linked to the weather and the seasons, the nearly autonomous nature of these classes works well with this student population. All they need to participate in the program is access to a VCR and a conference telephone. If a conference phone is not available, one is supplied by the University. Such an arrangement allows students to complete the program even if they are required to move from one location to another.

This method of delivery works well with this population, in another way, by making the content mentally accessible. The videotapes present the information in a straight forward, no-nonsense fashion that appeals to surveyors. If they have trouble with particular sections of the material they simply rewind the videotape and go over the material until they feel they understand it. Exercises provided by the instructor allow students to verify their understanding. Knotty points may be discussed during class sessions or on the phone with the instructor during office hours.

Considerations

Some lessons were gleaned from the delivery of the first course. It was found that several students required extra help with what should have been prerequisite to the course, mathematics. Remedial tapes were prepared and sent to those students. These tapes were later integrated into a more elementary course that has since become part of the program.

Second, the amount of required audioconferencing was decreased. Students reported they wanted more video and less interaction. As the instructor so ably phrased it, his students "just want the facts, not this touchy-feely stuff."

One final consideration in working with a program that is delivered across state lines is the need to develop an infrastructure to support delivery nationwide, as well as around the state. Because of the autonomy of the delivery mechanism, requests for the course have come from all over the country. To accommodate these students procedures and agreements for the transfer of credit are required as well as some assurance that the content is appropriate for the specific state context. Attention to logistical details such as time zones and mailing of videos are also required.

Conclusions

Programs developed in one state can be successfully developed and delivered to another state meeting the varying needs found from state to state in the rural west. By recognizing the diversity of the west and through the consideration of the Principles of Good Practice quality programming that is appropriate to varying populations can be shared. The University of Wyoming program is one example of how quality is defined. The efforts undertaken to expand the Land Surveying program outside the state exhibit the deliberateness with which programs are developed to ensure that differences can be accommodated.

Another program, offered through the Western Brokering Project has agreed to work cooperatively with out state schools on issues of financial aid for individuals enrolled in institutions in two states simultaneously. Yet another program is exploring various options for the location of learning sites to include non-educational settings to more appropriately accommodate the type of learners attracted to the program. Considerations of the learner and the larger learner community can increase the accessibility of educational opportunities.

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Autobiographical Sketches

Barbara Sparks, Ph.D., is currently a Project Coordinator for the Western Cooperative for Educational Telecommunications and works on the Western Brokering Project. She has also served as the Director of Distance Leaning for the University of Wisconsin-Milwaukee from 1989 to 1992. Her research and development interests focus on access issues and educational policy.

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